1896MNRAS..56..331D

Fireball of 1895 *November* 22, 6^h 50^m. By W. F. Denning.

Having recently received two additional observations of this brilliant object, I have reinvestigated its path with fairly satisfactory results. It appeared at an epoch which is unusually productive in phenomena of this kind, and there is no doubt that the recent fireball furnishes another fine Taurid to the already numerous series recorded in past years.

I have observations from eight places—viz. Brighton, Bristol, Ealing (W.), Eastbourne, Ipswich, Isle of Wight, Rickmansworth (Herts), and Torquay—but at Bristol, Ealing (W.), and Ipswich the sky was overcast, and the observers could record no more than the sudden and intense illuminations of the firmament caused by the meteor.

At Bristol I thought the light was greater than the full Moon could have occasioned. At Ealing (W.) Mr. R. T. Lewis says "the effect was similar to that which might have been produced by the explosion of a large magnesium shell sufficiently brilliant to illuminate the entire sky." At Ipswich Mr. A. Southgate remarks that "the sky, which was densely overcast, was suddenly and completely illuminated by a brilliant bluish light which appeared to penetrate the clouds. The effect was nearly equal to that of the Moon."

At other places where the meteor itself was seen its brightness was remarkable. At Brighton Mr. A. Stanley Williams noted that it lit up the whole country to the north. At Torquay Mr. C. W. Priestley's attention was called to the meteor by a strong light behind him, which he at first thought to be due either to the search-light of a vessel or a magnesium shell. At the Isle of Wight Capt. S. G. Horton, R.A., says "the meteor commenced as a brilliant white flash, as of a magnesium flashlight, and then followed yellow, red, and green in quick succession, a long streak of whitish light coming out from the main body and vanishing. A glow of yellow light remained where the first flash occurred for about 30 seconds and gradually died away."

Several of the observers noted that the fireball was brightest in the first half of its course, and that from the place of its greatest outburst a fragment shot in the same direction, several degrees further No detonation was heard I have worked out the following details of the path :—

Fireball 1895 *November* 22.

Height when first observed	34 miles
Over	The Nore, river Thames
Height of end of brilliant part of course ...	22 miles
Over	Tilbury
Height at final extinction	17 miles
Over	Greenwich
Earth point	Reading

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Real length of observed path	45 miles
Velocity	22 miles per second
Radiant point	58° + 22°
Direction of flight	East to west
Inclination of descent	26°

Very large meteors from *Taurus* are often seen in November, especially during the first week of that month and between the 20th and 23rd. Fireballs appeared in 1865 and 1884, on November 21, and in 1891, on November 22, several brilliant Taurids were visible in the evening sky, and "at Ramsgate were supposed to be rockets fired by the North Sandshead lightship. The life-boat at once put to sea. A heavy fog prevailed, and it was thought that a vessel had stranded on the Goodwin Sands, but on returning the coxwain reported that the lightship men had only observed two meteorites falling." In 1877 on November 23 two brilliant Taurids were seen. The radiant is at about 63° + 22°, and I determined it from ordinary shower-meteors in three years as follows:—

		Meteors
1876 November 20	62° + 22°	11
1880 November 27	63 + 21	8
1886 November 29–December 1	64 + 23	6

Earlier in November the radiant appears to be a few degrees west of this. In 1896 on November 2 I witnessed a shower of 17 Taurids from 55° - 9°, which is fully 15° S.S.W. of the position of the radiant in the last ten days of November.

Bristol 1896 *March* 5.

Note on a Curious Light (the Zodiacal Light?) as seen at Oxford, 1896 *March* 4. By H. H. Turner, M.A., B.Sc., Savilian Professor.

The evening of 1896 March 4 was brilliantly fine at times. After observing the transit of 6 *Cancri* (R.A. 7^h 57^m), Mr. F. A. Bellamy, assistant in the University Observatory, went out to look at the sky, and his attention was immediately caught by what seemed to be the tail of a very bright comet in the west. He had often observed the zodiacal light in Oxford, but this appearance struck him as quite unfamiliar. He promptly brought out a 3-inch telescope to examine the object, but detected nothing definite; the faint stars showed distinctly through the light. After a minute or two he concluded that it must be an extraordinary apparition of the zodiacal light, which conclusion was confirmed by the position of the object, the direction passing nearly through the *Pleiades*, and the highest point being at an altitude of about 12°. He came up to the transit room to call my attention to it, and found me observing a transit of *Jupiter* (R.A. 8^h 9^m). After this was concluded we went together to look at the phenomenon, but the light had then

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